

OLD CROSSCUT NEAR MCDOWELL ROAD
FCD GAGE ID# 4748

STATION DESCRIPTION

LOCATION – The gage is located on the Old Cross Cut canal approximately 1/4 mile south of McDowell Road and approximately 1/4 mile west of 48th Street. The instrumentation is on the left bank of the channel. Latitude N 33° 27' 54.7"; Longitude W 111° 58' 52.3". Located in the SE1/4 NE1/4 S06 T1N R4E in the Tempe 7.5-minute USGS quad map.

ESTABLISHMENT – The gage was installed July 27, 1994.

DRAINAGE AREA – Undetermined

GAGE – The gage is a pressure transducer type instrument. The diaphragm of the PT is at 0.13 feet gage height, levels of February 2, 2000. Gage height is defined in terms of the staff gage on the right bank wall, with 0.0 feet gage height being the bottom of the toe of the right bank.

There is one staff gage at this location. The staff reads in feet gage height, in 0.10 foot increments. The staff gage is on the right bank of the channel.

There are two crest stage gages at this site, both located above the PT instrument diaphragm.

CSG#1 (lower) has pin elevation of 0.66 feet gage height, levels of February 2, 2000.

CSG#2 (upper) has pin elevation of 4.39 feet gage height, levels of February 2, 2000.

ZERO GAGE HEIGHT - Zero is based on the staff gage. Datum is in gage datum only.

HISTORY – No previous history at this location. Gage established on July 27, 1994. The gage has been moved since installation. Originally the instrumentation was located at the outlet culvert at McDowell Road. The gage was moved downstream to its current location on August 1, 1995. Crest stage gages were installed on October 21, 1996.

REFERENCE MARKS –

RM1 is a '+' chiseled into the concrete floor of the channel near the PT. It has gage height elevation of -0.01 feet gage height, levels of February 2, 2000.

RM2 is an ADOT brass tablet near station 58+80. Elevation is given as 1,176.47 feet MSL. This RM is not tied to gage height.

CHANNEL AND CONTROL – The channel is a concrete lined rectangular channel. The channel is control for all discharges.

RATING – The current rating is Rating #3. Rating #3 was developed using HEC-RAS and a surveyed slope of 0.0052 ft/ft and an N value of 0.012.

DISCHARGE MEASUREMENTS – A discharge measurement could be done by wading for low flows only. The concrete bottom is conducive to algae growth that makes for slippery footing.

POINT OF ZERO FLOW – The PZF is the low point in the center of the v-channel. The PZF at the gage cross section is –0.29 feet gage height, levels of February 2, 2000.

FLOODS – A flow of 272 cfs was recorded on July 14, 1999.

REGULATION – Flows into the Old Cross Cut Channel are somewhat regulated by SRP. The OCC is connected to the Arizona Canal approximately 3 miles north of the gage location. Periodically, SRP will release water into the OCC. Flows into OCC are also generated by storm events.

DIVERSIONS – Downstream approximately one mile, SRP has built a gate within the OCC to divert water probably to the Grand Canal.

ACCURACY – Probably good. Some discharge measurements would be helpful to verify an N value.

JUSTIFICATION – Monitor flows for safety of those working in the channel.

UPDATE - July 19, 2011
 D E Gardner